Washington Department of Fish & Wildlife's Priority Habitat and Species Management Recommendations Volume IV: Birds

White-headed Woodpecker
Picoides albolarvatus

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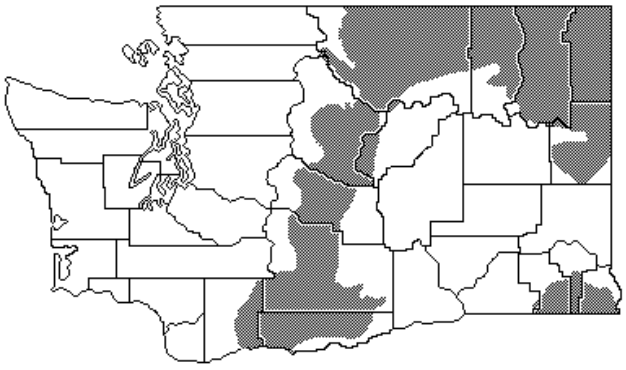
GENERAL RANGE AND WASHINGTON DISTRIBUTION

White-headed woodpeckers breed from southern British Columbia and Idaho to southern California (Garrett et al. 1996).

In Washington they are found in ponderosa pine (*Pinus ponderosa*) forests on the east slopes of the Cascade Mountains as well as in the Okanogan Highland, Selkirk and Blue Mountain areas of the state. They are uncommon throughout their range, but they can be locally abundant in optimal habitat.



Range of the white-headed woodpecker, *Picoides albolarvatus*, in Washington. Map derived from the literature.

RATIONALE

The white-headed woodpecker is a State Candidate species. This species is vulnerable to loss of older, pine-dominated forests, and to the loss of large trees and snags within these forests.

HABITAT REQUIREMENTS

White-headed woodpeckers are primarily associated with open-canopied, mature and old-growth ponderosa pine forests. They require large, decayed snags for nesting and roosting while they forage primarily in the bark of large ponderosa pines [>60 cm (24 in) dbh] (Thomas et al. 1979, Raphael and White 1984, Garrett et al. 1996). White-headed woodpeckers prefer to forage for insects on the scaly bark of live trees (Raphael and White 1984, Morrison et al. 1987), and they feed heavily on seeds from unopened pine cones during winter (Ligon 1973, Garrett et al. 1996).

Nesting

The white-headed woodpecker usually nests low to the ground [<10 m (33 ft), mean = 2-3 m (6.5-10 ft)] in cavities within snags and stumps (Raphael and White 1984, Milne and Hejl 1989). This species infrequently nests in live trees (J. Buchanan, personal communication). Nest trees include ponderosa pine, jeffrey pine (*Pinus jeffreyi*), lodgepole pine (*Pinus contorta*), sugar pine (*Pinus lambertiana*), white fir (*Abies concolor*), red fir (*Abies magnifica*), and occasional quaking aspen (*Populus tremuloides*) (Raphael and White 1984, Milne and Hejl 1989, Dixon 1995b, Garrett et al. 1996). Studies conducted outside of Washington found that white-headed woodpeckers prefer nesting in snags or trees that are 4-8 m (13-26 ft) tall with a dbh of 65-80 cm (26-31 in) (Raphael and White 1984; Milne and Hejl 1989; Dixon 1995a, b; Garrett et al. 1996). Recent findings in eastern Washington concluded that this species nests primarily in ponderosa pine snags averaging 12.6 m (41.3 ft) in height with a mean dbh of 51.5 cm (20.3 in) (J. Buchanan, personal communication). Larger trees and snags characterized the immediate surroundings of active nest sites. The canopy closure in sites containing nesting birds was considerably open, averaging 7.2%.

Nest excavation begins in April to early May, while nesting occurs from late May to late June (Garrett et al. 1996). Incubation takes 14 days, and young leave the nest in late June to early July after a 26-day fledging period (Garrett et al. 1996).

Foraging

A significant portion of white-headed woodpecker diet consists of pine seeds, especially during winter and early spring (Ligon 1973). Other food sources include invertebrates, sap and other plant matter (Ligon 1973, Garrett et al. 1996). Their diet displays significant seasonal variation. The importance of pine seed in the white-headed woodpeckers diet appears to vary regionally (Morrison and With 1987).

Foraging involves gleaning insects from the trunks of live trees and snags, typically pines and firs (Raphael and White 1984, Morrison et al. 1987). Foliage gleaning and drilling into pine cones are also typical foraging techniques. Feeding on sap occurs only occasionally for this species (Garrett et al. 1996). White-headed woodpeckers regularly drink from open water sources, including pools, creeks, and puddles (Garrett et al. 1996).

Roosting

White-headed woodpeckers most frequently roost in cavities, but also roost in spaces behind peeling bark and in crevices within tree trunks (Dixon 1995a, b; Garrett et al. 1996). They typically roost in ponderosa pines (live trees and snags) averaging 60 cm (24 in) dbh and 7 m (23 ft) tall. Males roost in the nest cavity with their young until they fledge. Cavities are used as winter roosts, and frequently the same cavity is used over an entire season (Dixon 1995a, b; Garrett et al. 1996).

Home Range

Home ranges of white-headed woodpeckers in old-growth habitat averaged 104 ha (257 ac) and 212 ha (524 ac) for central and south-central Oregon, respectively. Home ranges in fragmented habitat average 321 ha (793 ac) and 342 ha (845 ac) for the same regions, respectively (Dixon 1995a, b).

LIMITING FACTORS

Availability of mature and old growth ponderosa pine forests with adequate snags for nesting and winter foraging has resulted in the decline of this species (Garrett et al. 1996). Logging of old ponderosa pine reduces suitable habitat and maintaining even-aged stands limits a site's capacity to replenish itself with large trees and snags. Fire suppression results in closed canopy, less suitable habitat, and eventually displaces important ponderosa pine with firs.

MANAGEMENT RECOMMENDATIONS

Management of habitat for this species should focus on providing snags suitable for nesting and the retention of large live trees for foraging (J. Buchanan, personal communication). Large trees should constitute 40-70% of the forest trees (Neitro et al. 1985).

Connor (1979) states that managing for the minimum habitat requirements may cause gradual population declines. Therefore, it is recommended that forests be managed using average rather than minimum suggested values. Based on research in eastern Washington, forest management should seek to retain 6-8 snags averaging 42.1 cm (16.6 in) dbh/0.8 ha (2-4 snags/ac) and 8 - 10 live trees averaging 63.4 cm (25.0 in) dbh/0.8 ha (4-5 trees/ac) in the immediate vicinity of nesting areas (J. Buchanan, personal communication). These figures are based on a sample of snags $\geq$ 20 cm (7.9 in) dbh and live trees $\geq$ 50 cm (19.7) dbh. Additionally, open canopy conditions are recommended for these same sites.

Woodpeckers and other insectivores play an important role in naturally reducing insect populations. Management to increase woodpecker populations should have the secondary benefit

of increasing other insectivorous birds (Takekawa et al. 1982). If pesticides or herbicide use is planned in areas inhabited by this species, refer to Appendix A, which lists useful contacts for assessing pesticides, herbicides, and other alternatives.

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PERSONAL COMMUNICATIONS

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KEY POINTS

Habitat Requirements

- Mature and old-growth ponderosa pine and mixed conifer forests.
- Nests in snags averaging >65 cm (26 in) dbh.
- Home ranges in Oregon average 100-200 ha (247-484 ac) in old-growth habitat, and over 300 ha (741 ac) in fragmented habitat.
- Forages on insects in large [>60 cm (24 in) dbh] snags and live trees, and on pine seeds during winter and early spring.

Management Recommendations

- Maintain mature forest conditions or limit timber removal to moderate levels of selective cutting to maintain white-headed woodpecker populations. Mature ponderosa pine should constitute 40-70% of the forest trees.
- Retain 6-8 snags averaging 42.1 cm (16.6 in) dbh/0.8 ha (2-4 snags/ac) and 8 - 10 live trees averaging 63.4 cm (25.0 in) dbh/0.8 ha (4-5 trees/ac) where nesting occurs.
- Maintain open canopy conditions for sites within the immediate vicinity of nesting white-headed woodpeckers.
- Refer to Appendix A, that lists useful contacts for assessing pesticides, herbicides, and their alternatives, if pesticide or herbicide use is planned in areas inhabited by this species.